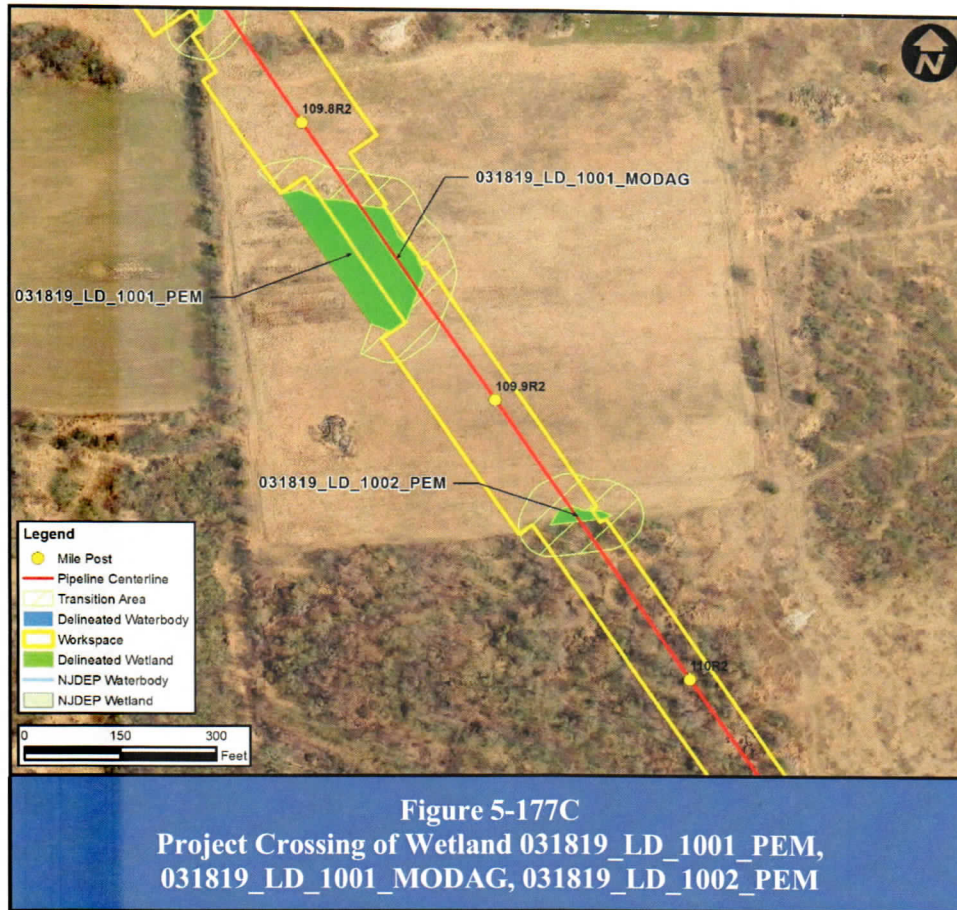


## 5.228 Regulated Crossing 177C



## INVENTORY

### Wetlands

Wetland 031819\_LD\_1001\_MODAG/PEM is a field-delineated modified agricultural/palustrine emergent wetland. The emergent component occurs within a fallow field; the modified component consists of a plowed crop field. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 031819\_LD\_1002\_PEM is a field-delineated palustrine emergent wetland occurring at the forest edge of an agricultural field. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 031819\_LD\_1001\_MODAG/PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 031819\_LD\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

## Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;

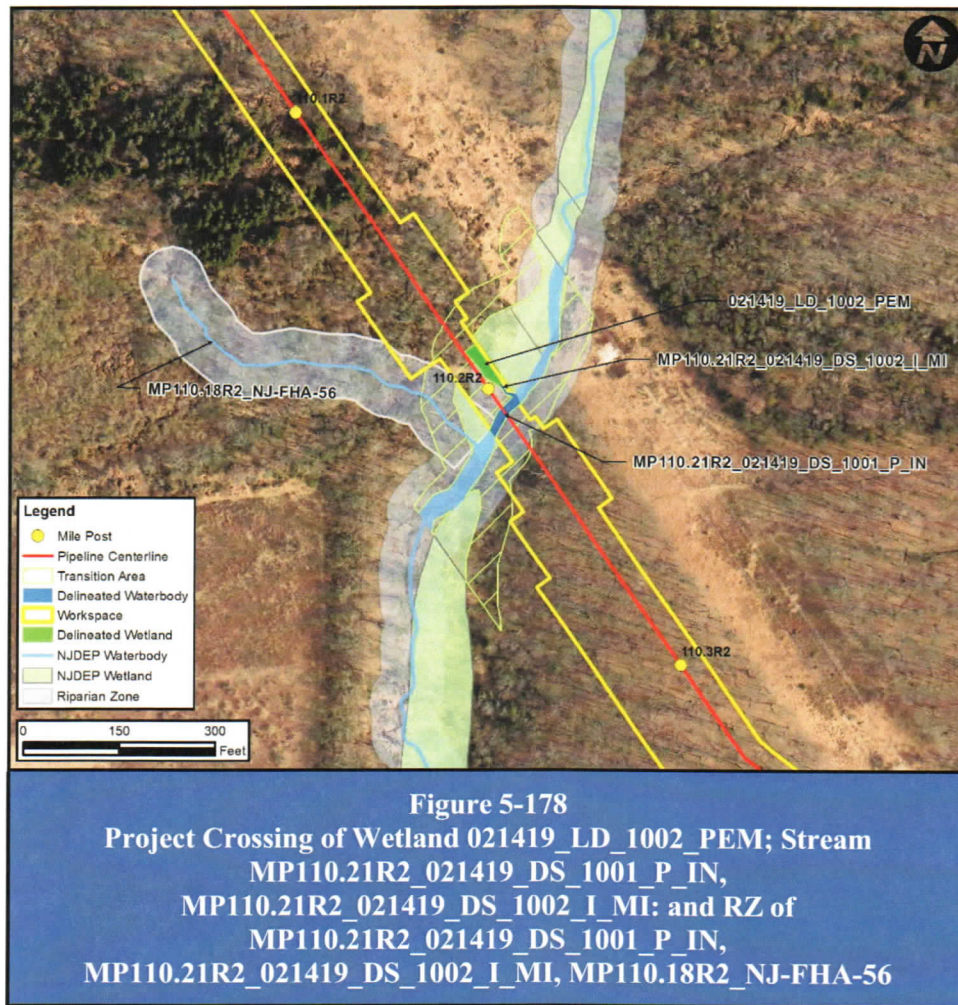
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable; no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.229 Regulated Crossing 178



## INVENTORY

### Wetlands

Wetland 021419\_LD\_1002\_PEM is a field-delineated palustrine emergent wetland occurring at the toe of a forested slope. The feature drains into an intermittent tributary of Woolsey Brook, which empties into an intermediate perennial tributary of Woolsey Brook. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

Regulated Resources 021419\_LD\_1002\_PEM, 021419\_DS\_1001\_P\_IN, and 021419\_DS\_1002\_I\_MI are located on Block 92, Lot 9 in Mercer Township. This property is public land owned by the Township of Hopewell.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 021419\_LD\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream MP110.21R2\_ 021419\_DS\_1001\_P\_IN has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream MP110.21R2\_ 021419\_DS\_1002\_I\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

MP110.18R2\_NJ-FHA-56 has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Stream MP110.21R2\_ 021419\_DS\_1001\_P\_IN is a field-delineated, unnamed perennial tributary of Woolsey Brook. The feature flows southwest through forest.

Stream MP110.21R2\_ 021419\_DS\_1002\_I\_MI is a field-delineated, unnamed intermittent tributary of Woolsey Brook. The feature flows south through an emergent wetland and drains into the perennial tributary 021419\_DS\_1001\_P\_IN.

### Riparian Zones

RZ of 021419\_DS\_1001\_P\_IN is the 50-foot riparian area associated with this stream. This riparian area is vegetated.

RZ of 021419\_DS\_1002\_I\_MI is the 50-foot riparian area associated with this stream. This riparian area is vegetated.

RZ of MP110.18R2\_NJ-FHA-56 is the 50-foot riparian area associated with an off-site tributary to Woolsey Brook. This riparian area is vegetated.

### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, this tributary of the Woolsey Brook is classified as a non-trout waterbody (FW2-NT).

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas and dry crossing of streams is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;

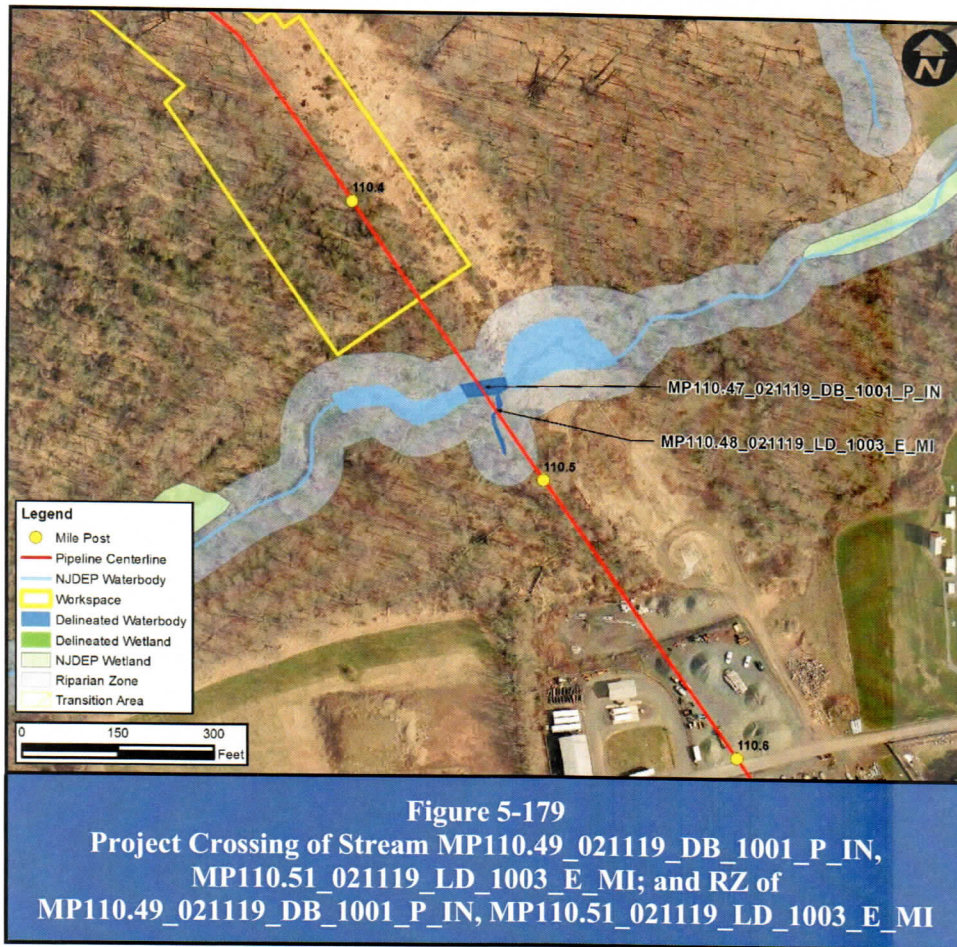
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.230 Regulated Crossing 179



### INVENTORY

#### Wetlands

Not present.

#### Transition Areas

Not present.

#### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

#### Public Lands

Regulated Resources 021119\_DB\_1001\_P\_IN and 021119\_LD\_1003\_E\_MI are located on Block 92, Lot 5 in Mercer Township. This property is public land owned by the Township of Hopewell.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Stream MP110.49\_021119\_DB\_1001\_P\_IN has been identified as suitable or potentially suitable habitat for the following State-listed endangered or threatened species: Missouri gooseberry.

Stream MP110.51\_021119\_LD\_1003\_E\_MI has been identified as suitable or potentially suitable habitat for the following State-listed endangered or threatened species: American kestrel.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Stream MP110.49\_021119\_DB\_1001\_P\_IN is a field-delineated perennial section of the main stem Woolsey Brook. The feature flows west across a maintained utility right-of-way and through forest.

Stream MP110.51\_021119\_LD\_1003\_E\_MI is a field-delineated, unnamed ephemeral tributary of the Woolsey Brook. The feature flows northwest down a forested slope, draining into the main stem stream.

### Riparian Zones

RZ of MP110.49\_021119\_DB\_1001\_P\_IN is the 50-foot riparian area associated with the main stem stream above. This riparian area is partially vegetated and partially actively disturbed utility right-of-way.

RZ of MP110.51\_021119\_LD\_1003\_E\_MI is the 50-foot riparian area associated with the unnamed ephemeral tributary mentioned above. This riparian area is vegetated.

### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, this tributary of the Woolsey Brook is classified as a non-trout waterbody (FW2-NT).

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

HDD is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project impact regulated resources those impacts are both unavoidable and temporary. In consideration of these observations, it is not anticipated that the proposed HDD at this crossing will result in permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing HDD technology minimizes direct impacts to environmentally sensitive areas. To mitigate the inherent risks in HDD construction, PennEast prepared a design for the proposed HDD



based on information from a site specific geotechnical investigation and developed a HDD IRCP (Attachment R). In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

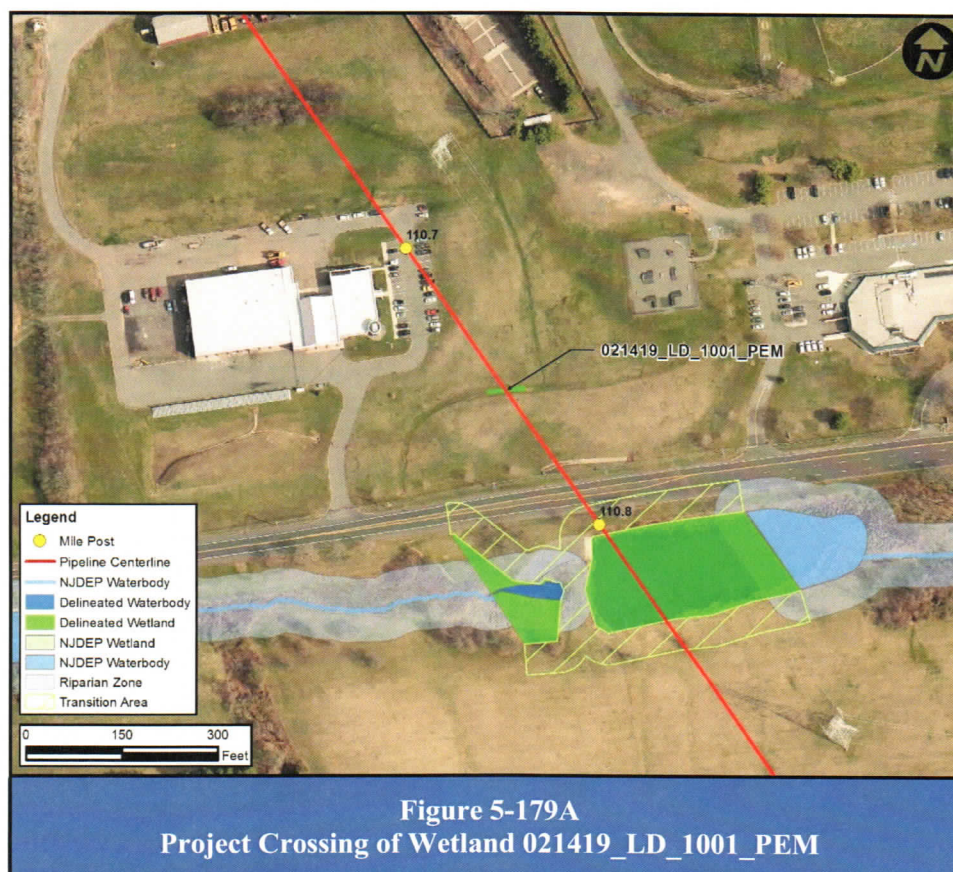
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;

- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

### 5.231 Regulated Crossing 179A



## INVENTORY

### Wetlands

Wetland 021419\_LD\_1001\_PEM is a field-delineated palustrine emergent wetland swale occurring in a maintained, mowed field along the upper edge of a stormwater basin. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 0 feet due to the ordinary resource value associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

Regulated Resource 021419\_LD\_1001\_PEM is located on Block 92, Lot 5 in Mercer Township. This property is public land owned by the Township of Hopewell.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 021419\_LD\_1001\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

HDD is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project impact regulated resources those impacts are both unavoidable and temporary. In consideration of these observations, it is not anticipated that the proposed HDD at this crossing will result in permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing HDD technology minimizes direct impacts to environmentally sensitive areas. To mitigate the inherent risks in HDD construction, PennEast prepared a design for the proposed HDD based on information from a site specific geotechnical investigation and developed a HDD IRCP (Attachment R). In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;

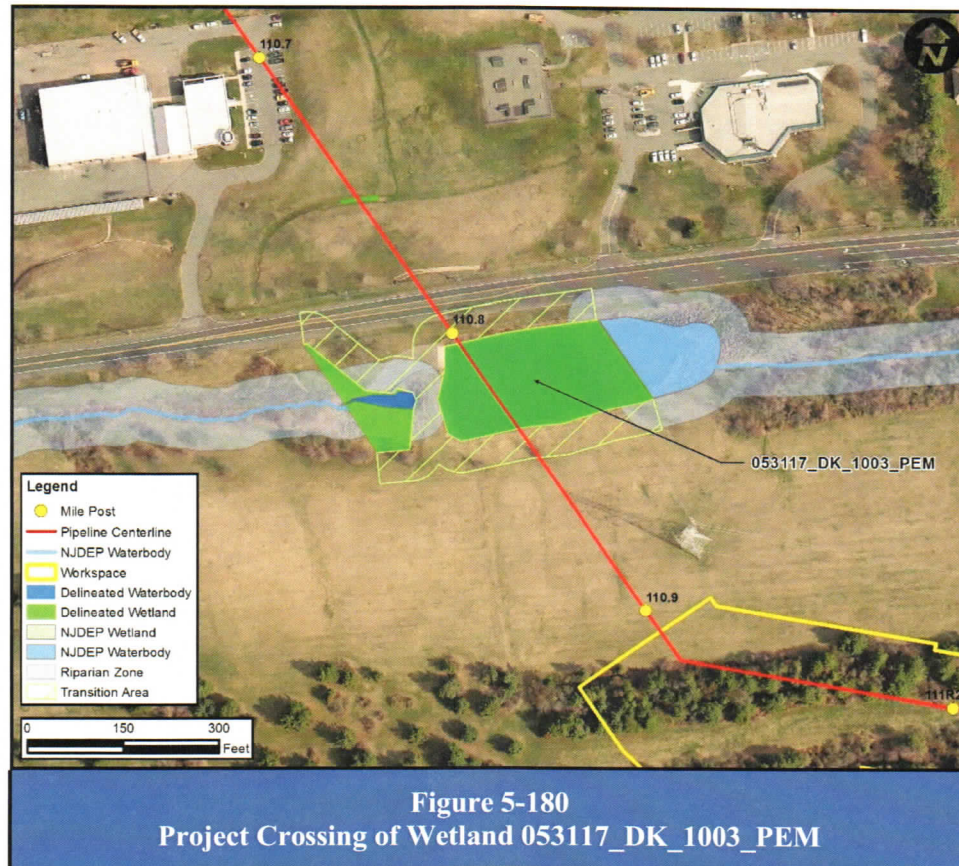
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.232 Regulated Crossing 180



## INVENTORY

### Wetlands

Wetland 053117\_DK\_1003\_PEM is a field-delineated palustrine emergent (PEM) wetland occurring along the edge of a pond, adjacent to County Road 546. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 053117\_DK\_1003\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## **ASSESSMENT**

### **Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity**

HDD is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project impact regulated resources those impacts are both unavoidable and temporary. In consideration of these observations, it is not anticipated that the proposed HDD at this crossing will result in permanent adverse environmental impacts.

### **Measures Taken to Reduce Potential Adverse Environmental Impacts**

Utilizing HDD technology minimizes direct impacts to environmentally sensitive areas. To mitigate the inherent risks in HDD construction, PennEast prepared a design for the proposed HDD based on information from a site specific geotechnical investigation and developed a HDD IRCP (Attachment R). In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;

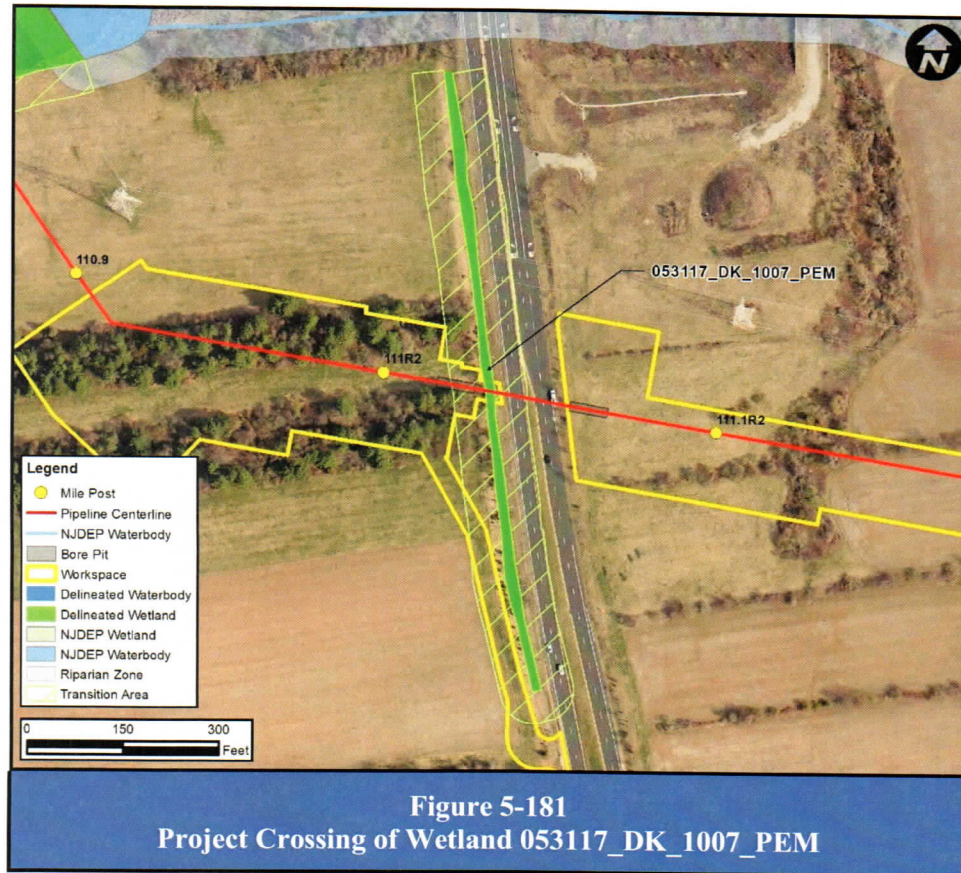
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



### 5.233 Regulated Crossing 181



## INVENTORY

### Wetlands

Wetland 053117\_DK\_1007\_PEM is a field-delineated palustrine emergent (PEM) wetland occurring in a ditch along County Road 611. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 053117\_DK\_1007\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.



The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

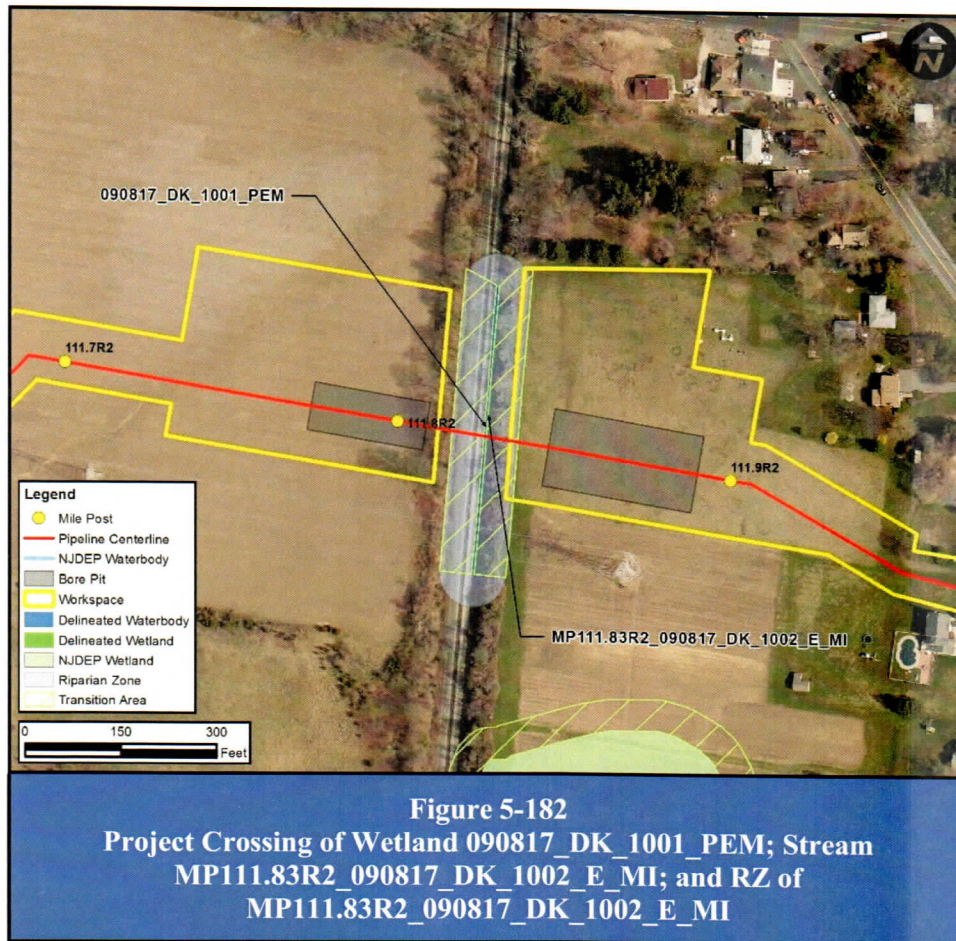
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and

- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

### 5.234 Regulated Crossing 182



## INVENTORY

## Wetlands

Wetland 090817\_DK\_1001\_PEM is a field-delineated palustrine emergent wetland occurring in a ditch along a railroad. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

## Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 090817\_DK\_1001\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream MP111.83R2\_090817\_DK\_1002\_E\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Stream MP111.83R2\_090817\_DK\_1002\_E\_MI is a field-delineated minor, ephemeral tributary of Woolsey Brook. It is co-located with the wetland ditch along a railroad right-of-way.

### Riparian Zones

RZ of MP111.83R2\_090817\_DK\_1002\_E\_MI is the 50-foot riparian area associated with this stream. This riparian area is vegetated.

### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Woolsey Brook is classified as a freshwater non-trout waterbody (FW2-NT).

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and

mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;

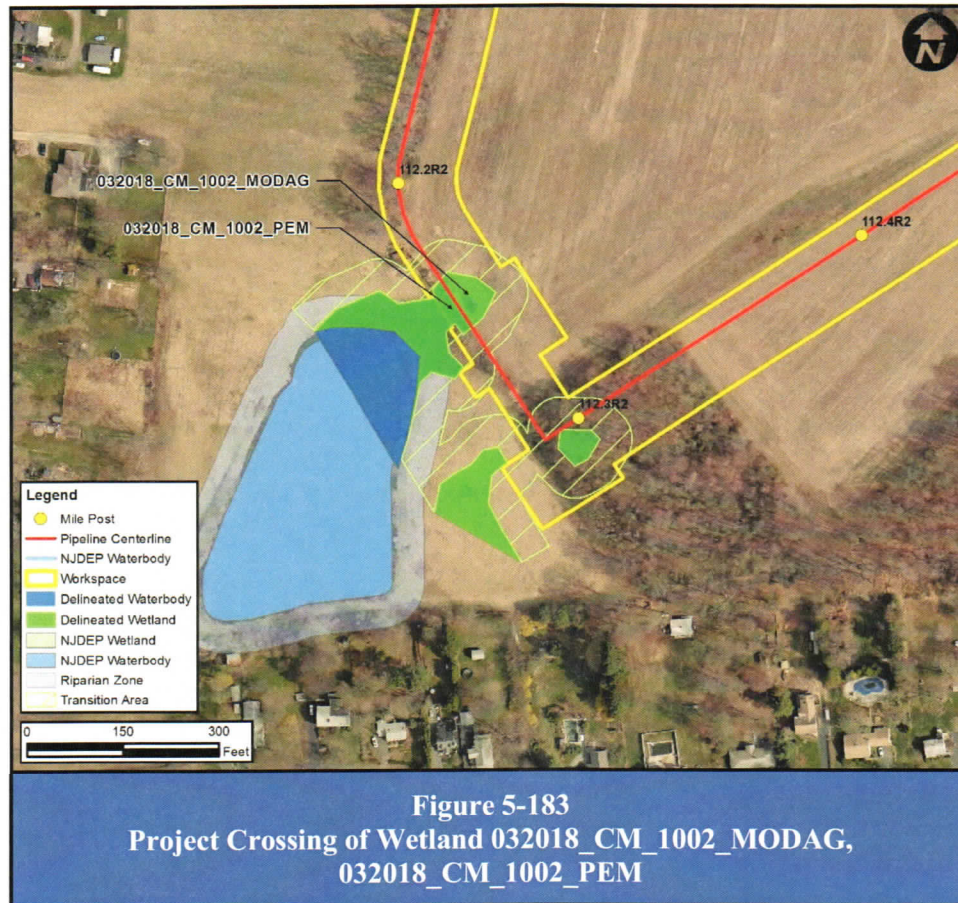
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



### 5.235 Regulated Crossing 183



## INVENTORY

### Wetlands

Wetland 032018\_CM\_1002\_MODAG is a field-delineated modified agricultural wetland occurring in an agricultural field along the edge of a pond. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 032018\_CM\_1002\_PEM is a palustrine emergent (PEM) wetland situated between two modified agricultural wetland portions of the same wetland. The wetland is associated with a man-made waterbody delineated as 032018\_CM\_1003\_POND. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

Regulated Resources 032018\_CM\_1002\_MODAG and 032018\_CM\_1002\_PEM are located on Block 85, Lot 3 in Mercer Township. This property is public land owned by the Township of Hopewell.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 032018\_CM\_1002\_MODAG has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 032018\_CM\_1002\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

## Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;

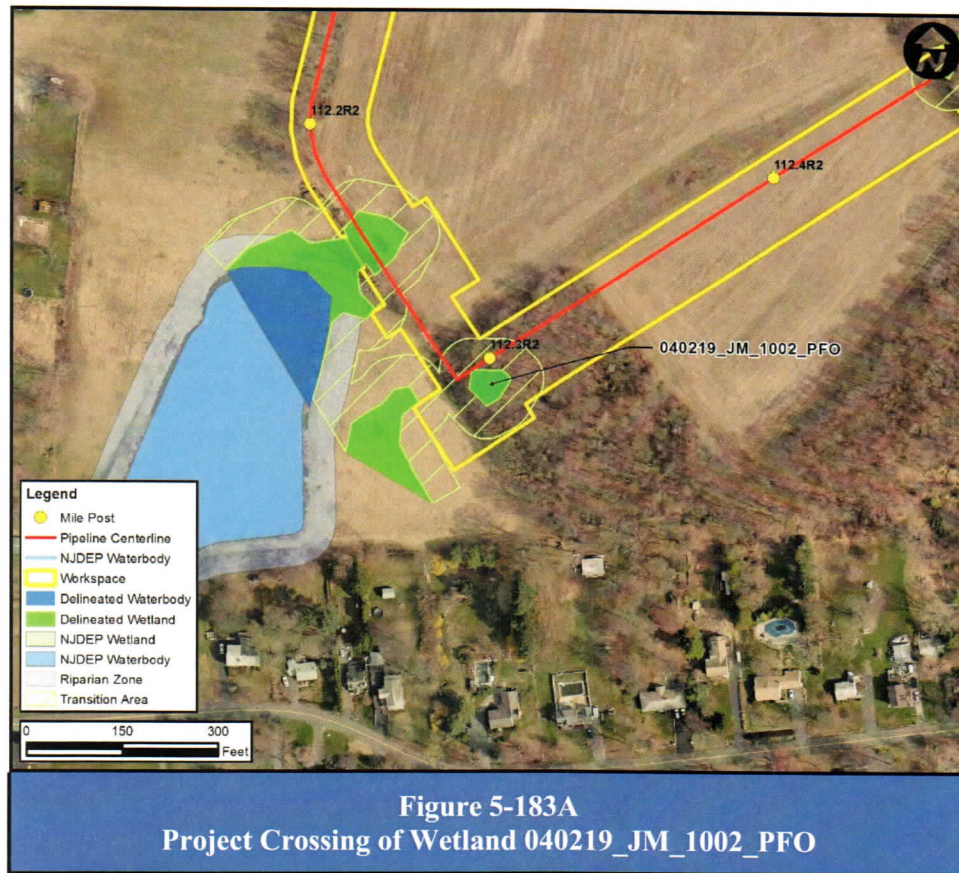
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable; no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.236 Regulated Crossing 183A



## INVENTORY

### Wetlands

Wetland 040219\_JM\_1002\_PFO is a field-delineated palustrine forested wetland occurring in forest bordered by agricultural fields. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

Regulated Resource 040219\_JM\_1002\_PFO is located on Block 85, Lot 3 in Mercer Township. This property is public land owned by the Township of Hopewell.



### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 040219\_JM\_1002\_PFO has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

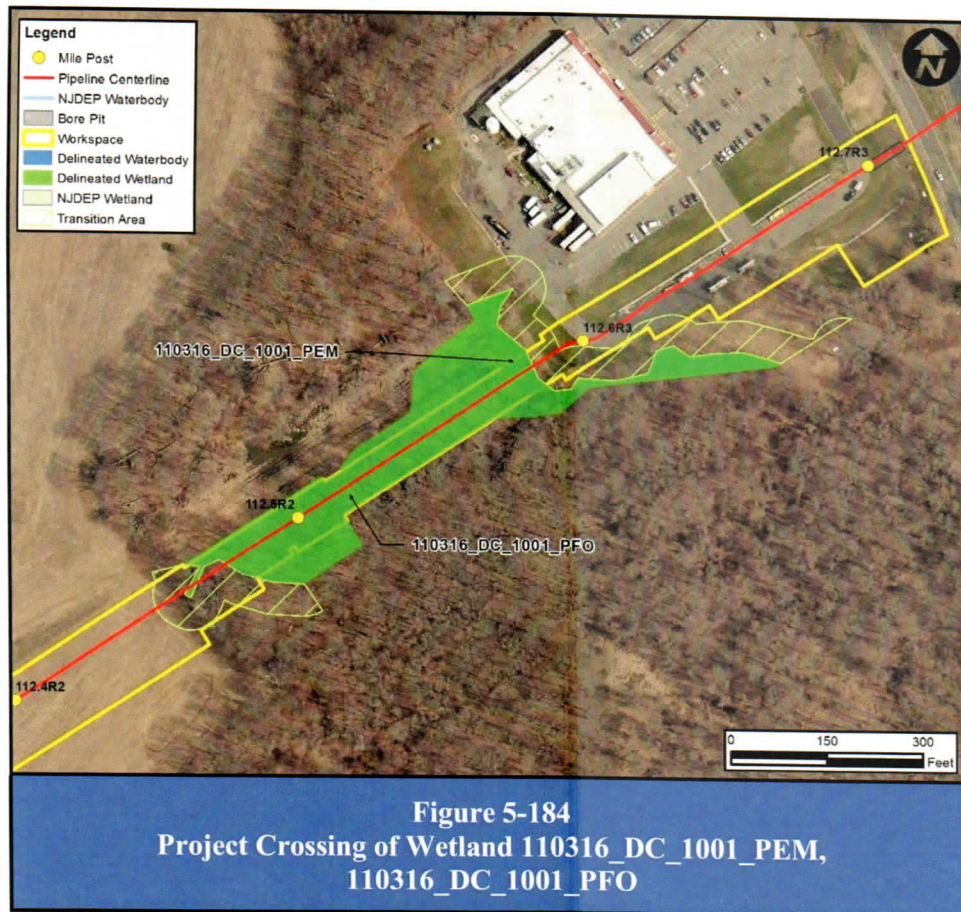
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;

- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

### **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

## 5.237 Regulated Crossing 184



## INVENTORY

### Wetlands

Wetland 110316\_DC\_1001\_PEM /110316\_DC\_1001\_PFO is a State-mapped and field-delineated forested/emergent wetland complex. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

Regulated Resource 110316\_DC\_1001\_PFO is located on Block 85, Lot 3 in Mercer Township. This property is public land owned by the Township of Hopewell.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 110316\_DC\_1001\_PEM /110316\_DC\_1001\_PFO has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

### Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs

and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;

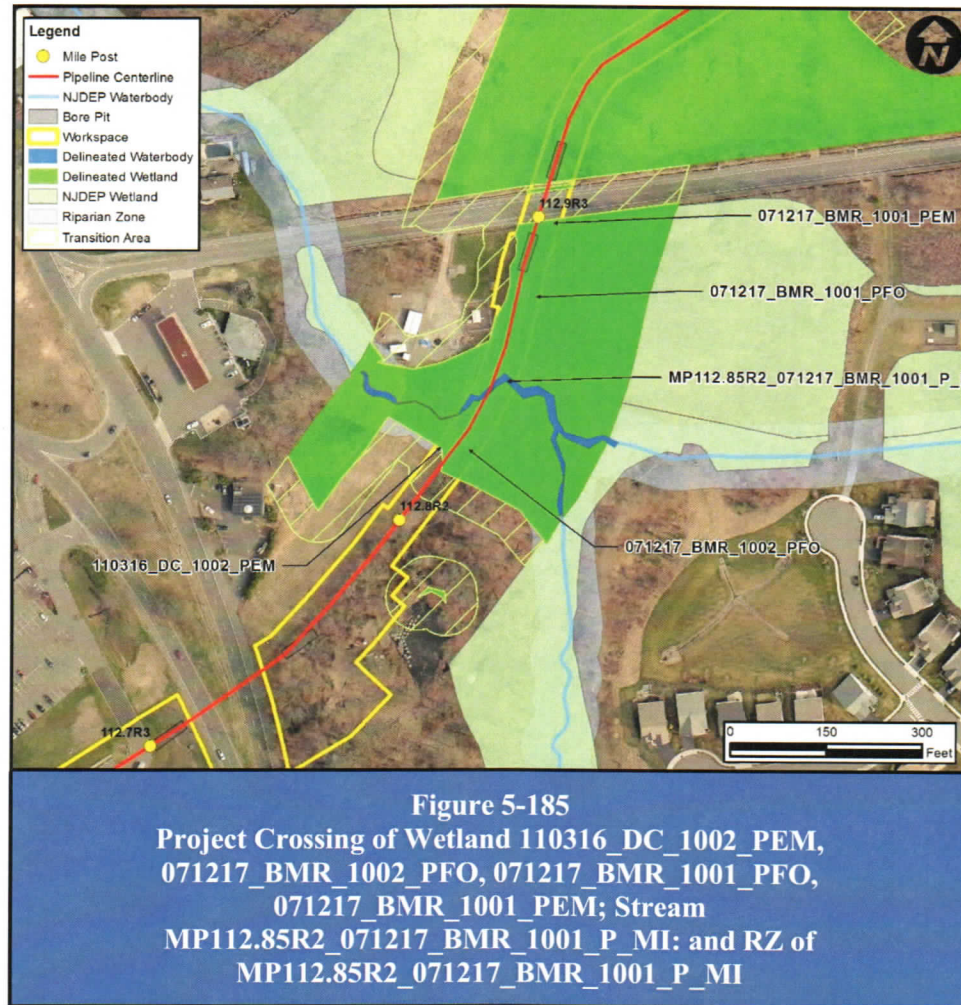


- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

## 5.238 Regulated Crossing 185



## INVENTORY

### Wetlands

Wetland 071217\_BMR\_1002\_PFO / 110316\_DC\_1002\_PEM / 071217\_BMR\_1001\_PFO / 071217\_BMR\_1001\_PEM is a field-delineated palustrine forested/emergent wetland complex occurring within and adjacent to an existing, maintained utility right-of-way. The complex occurs along an unnamed field-delineated minor perennial tributary of Stony Brook. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 071217\_BMR\_1002\_PFO / 110316\_DC\_1002\_PEM /071217\_BMR\_1001\_PFO / 071217\_BMR\_1001\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Stream MP112.85R2\_071217\_BMR\_1001\_P\_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Stream MP112.85R2\_071217\_BMR\_1001\_P\_MI is a minor, perennial tributary of Stony Brook flowing south through a palustrine forested wetland. The banks are stable, and approximately three feet apart. The streambed substratum is predominantly sand and silt, with some clay and gravel.

### Riparian Zones

RZ of MP112.85R2\_071217\_BMR\_1001\_P\_MI is the 50-foot riparian area associated with the stream. This riparian area is mostly vegetated.

### Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, this tributary of Stony Brook is classified as a non-trout waterbody (FW2-NT).

## ASSESSMENT

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas and dry crossing of streams is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. Temporary matting is proposed within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

## Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;

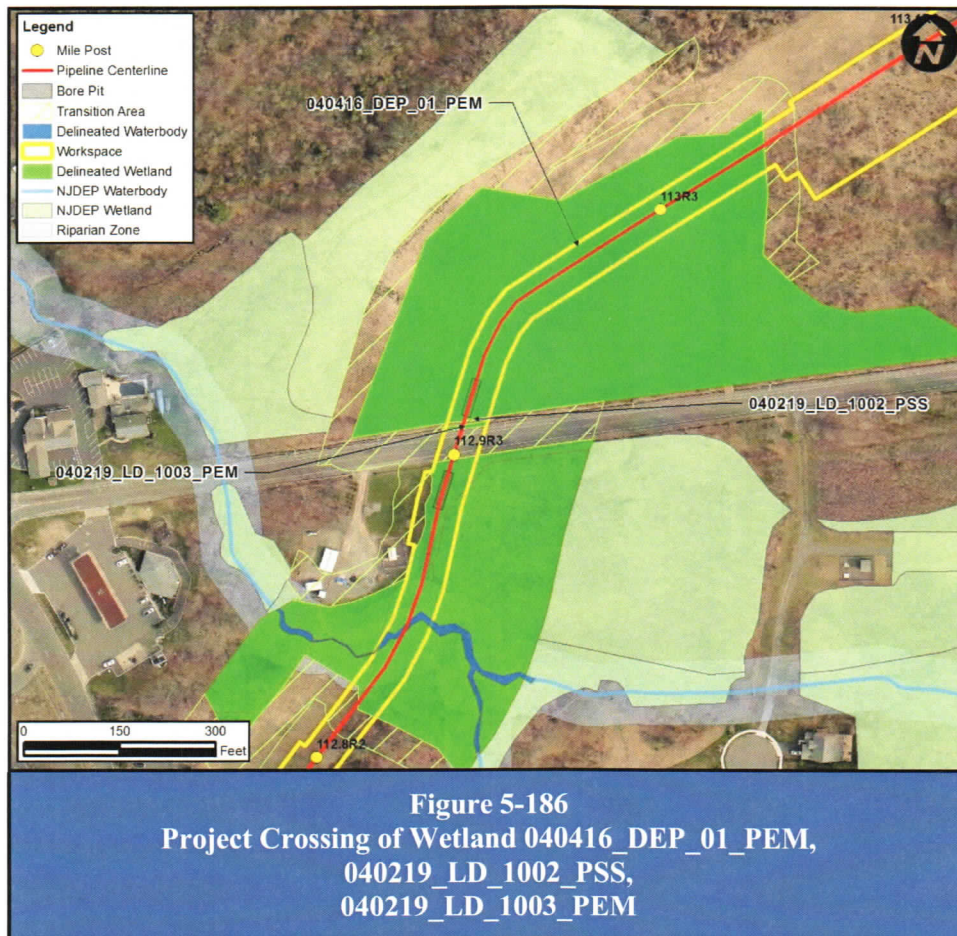
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.



## 5.239 Regulated Crossing 186



## INVENTORY

### Wetlands

Wetland 040416\_DEP\_01\_PEM is an LOI verified palustrine emergent (PEM) wetland located adjacent to County Road 546. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 040219\_LD\_1003\_PEM is a field delineated, palustrine, emergent wetland occurring in a ditch along County Route 546/Kingwood Locktown Road. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Wetland 040219\_LD\_1002\_PSS is a field-delineated palustrine shrub-scrub wetland occurring in a fallow field. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

### Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.



### Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

### Public Lands

None of the regulated resources in this crossing are on public lands.

### Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 040416\_DEP\_01\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 040219\_LD\_1003\_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Wetland 040219\_LD\_1002\_PSS has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

### State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

### Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

### Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

## **ASSESSMENT**

### Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed for a portion of this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. The other portion of this crossing is open-cut through wetland areas. This crossing method is proposed at locations where the use of trenchless technology is not feasible. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and

Pipeline and Hazardous Materials Safety Administration requirements. Temporary matting will be utilized within regulated areas to reduce impacts to herbaceous vegetation. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

#### Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife*

*from Management Activities on Powerline Rights-of-Way in NJ (NJDEP ENSP 2011) (Strategies);*

- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

## **FINDINGS**

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.